



REMARKS

Favorable consideration and allowance of the present application is respectfully requested.

Currently, claims 1-2, 4-13, 42, and 44-49 are pending in the present application, including independent claims 1, 46, 48, and 49. In the Office Action, the Examiner indicated that claim 43 would be allowable if rewritten into independent form to include the limitations of the base claim and any intervening claims. Thus, claim 43 has been rewritten into independent claim 49, which includes the limitations of claims 1, 42, and 43. Thus, Applicants respectfully submit that claim 49 is now allowable.

Further, in the Office Action, independent claims 1 was rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,926,742 to Thakur et al., in view of U.S. Patent No. 5,846,375 to Gilchrist et al. As set forth in Applicants previous response and agreed by the Examiner, Thakur et al. fails to disclose one or more limitations of independent claim 1. Thus, Gilchrist et al. was combined with Thakur, et al. in an attempt to render obvious the limitations of independent claim 1.

However, Applicants respectfully submit that one of ordinary skill in the art would not have found it obvious to combine the above-cited references in the manner suggested in the Office Action. For instance, Thakur, et al. describes a RTP system that utilizes lamps for heating. On the other hand, Gilchrist, et al. is directed to a system that utilizes a chuck that contacts the wafer for heating. As noted in the present application, lamps have much higher heating and cooling rates than electrical elements (i.e., chucks). (Appl. pg. 11). Lamps create a rapid isothermal processing system that provide instantaneous energy, typically requiring a very short and well controlled start

up period. The flow of energy from lamps can also be abruptly stopped at any time.

Based on the vast differences in these types of heating systems, one of ordinary skill in the art simply would not have found it obvious to utilize control techniques associated with a chuck-based system in a RTP system.

In response to this argument, the recent Office Action states the following:

In response to Applicants contentions that there are vast differences in the heating systems of Thakur and Gilchrist, please note that the support for Gilchrist lies in the reasoning that Claim 1 recites a heating stage, which was lacking in Thakur. . . In this case, the heating stage of Gilchrist can selectively control the localized temperature of at least one localized region of the semiconductor wafer.

(1/14/03 Office Action, pg. 2) (Emphasis added).

In addition, the following rationale was also given to the proposed combination:

Therefore, at the time the invention was made, one artisan in the art would have been motivated to modify the gas injection unit of Thakur et al. using the selectively-controlled type gas injection unit of Gilchrist for the purpose of heat treating the semiconductor wafer since by this manner it would be able to selectively control the localized temperature of localized regions of the semiconductor wafer, which in turn would minimize temperature deviation from a predetermined temperature.

(1/14/03 Office Action, pg. 4) (Emphasis added).

Based on the above statements, it is clear that the above-cited references are being interpreted in light of Applicants' specification, which is improper under 35 U.S.C. §103. Namely, the motivation is said to stem from the fact that the proposed combination would result in the claimed localized temperature control. This impermissible use of hindsight simply cannot support a *prima facie* case of obviousness under §103. In addition, the fact that Gilchrist, et al. could possibly supply the required

selective localized temperature control cannot provide the necessary teaching, suggestion, or motivation to modify Thakur, et al. In fact, this rationale appears to be based on the notion that it would have been "obvious to try" the modification, which is also improper under 35 U.S.C. §103(a).

Simply stated, the prior art as a whole does not teach the desirability of combining all of the aspects of the above-cited references in the manner suggested in the Office Action. For instance, there is simply no suggestion whatsoever to incorporate a cooling system specifically designed for chuck-based heating into a RTP heating method. Thus, for at least the reasons set forth above, Applicants respectfully submits that independent claim 1 patentably defines over the above-cited references.

With respect to independent claim 48, it was stated in the Office Action that no patentable weight was give to the "location features" because Applicants elected method claims. Although Applicants disagree with this assertion, it is nonetheless submitted that independent claim 48 patentably defines over the cited references for at least the reasons discussed above. However, in no way do Applicants admit that the patentability of claim 48 hinges on the patentability of claim 1.

With respect to independent claim 46, Applicants are unable to discern from the Office Action the basis on which this claim was rejected as it is not listed or mentioned in any of the claim rejections of ¶¶ 4-12. Regardless, Applicants submit that claim 46 patentably defines over the above-cited references.

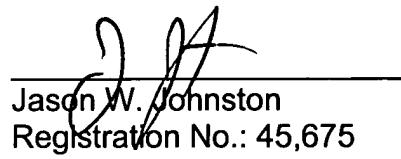
In summary, it is respectfully submitted that the claims are patentably distinct over the prior art of record. Thus, it is submitted that the present application is in complete condition for allowance and favorable action, therefore, is respectfully

requested. Examiner Lee is invited and encouraged to telephone the undersigned at her convenience should any issues remain after consideration of the present response.

Please charge any additional fees required by this Amendment to Deposit Account No. 04-1403.

Respectfully submitted,

DORITY & MANNING, P.A.


Jason W. Johnston
Registration No.: 45,675

DORITY & MANNING, P.A.
P.O. Box 1449
Greenville, SC 29602-1449
Phone: (864) 271-1592
Facsimile: (864) 233-7342

Date: 3/14/03